

## Fluid Mixture Composition Sensor

### Abstract

An improved, affordable, and rapid fluid mixture composition or process monitor based on a thermal microstructure sensor. This is preferably accomplished with a microbridge sensor design that has reduced susceptibility to interfering components of the mixture. The sensor described herein is therefore suitable for monitoring the concentration of at least one component in a fluid mixture when the fluid mixture consists of either (1) two components with very different thermal conductivities; or (2) three or more components wherein at least one component has a very different thermal conductivity and the effects of the other components can be largely eliminated, especially if the component of interest is hydrogen and the interference is from the variability in the concentrations of  $\text{CO}_2$  and  $\text{H}_2\text{O}$ .